



Transportation Packaging Quick Facts

Office of Environmental Management
National Transportation Program



Packaging: Type A¹

Definition: Packaging used to transport radioactive materials with amounts or concentrations of radioactivity not exceeding the limits established in *Title 49, Code of Federal Regulations (CFR)*, Parts 173.403 and 173.431. Type A packagings come in a wide variety of shapes, sizes and materials of construction including steel drums, steel or wooden boxes, fiberboard drums and cardboard boxes. Some have an inner containment vessel made of glass, plastic, or metal, and packing material of polyethylene, polystyrene, rubber, or vermiculite. When shipping liquids, an absorbent material that is compatible with the liquid contents and that has the ability to absorb twice the volume of the liquid contents must be used in the inner packaging. If no such absorbent is used, the outer containment mechanism must retain the liquid contents if the inner containment leaks.

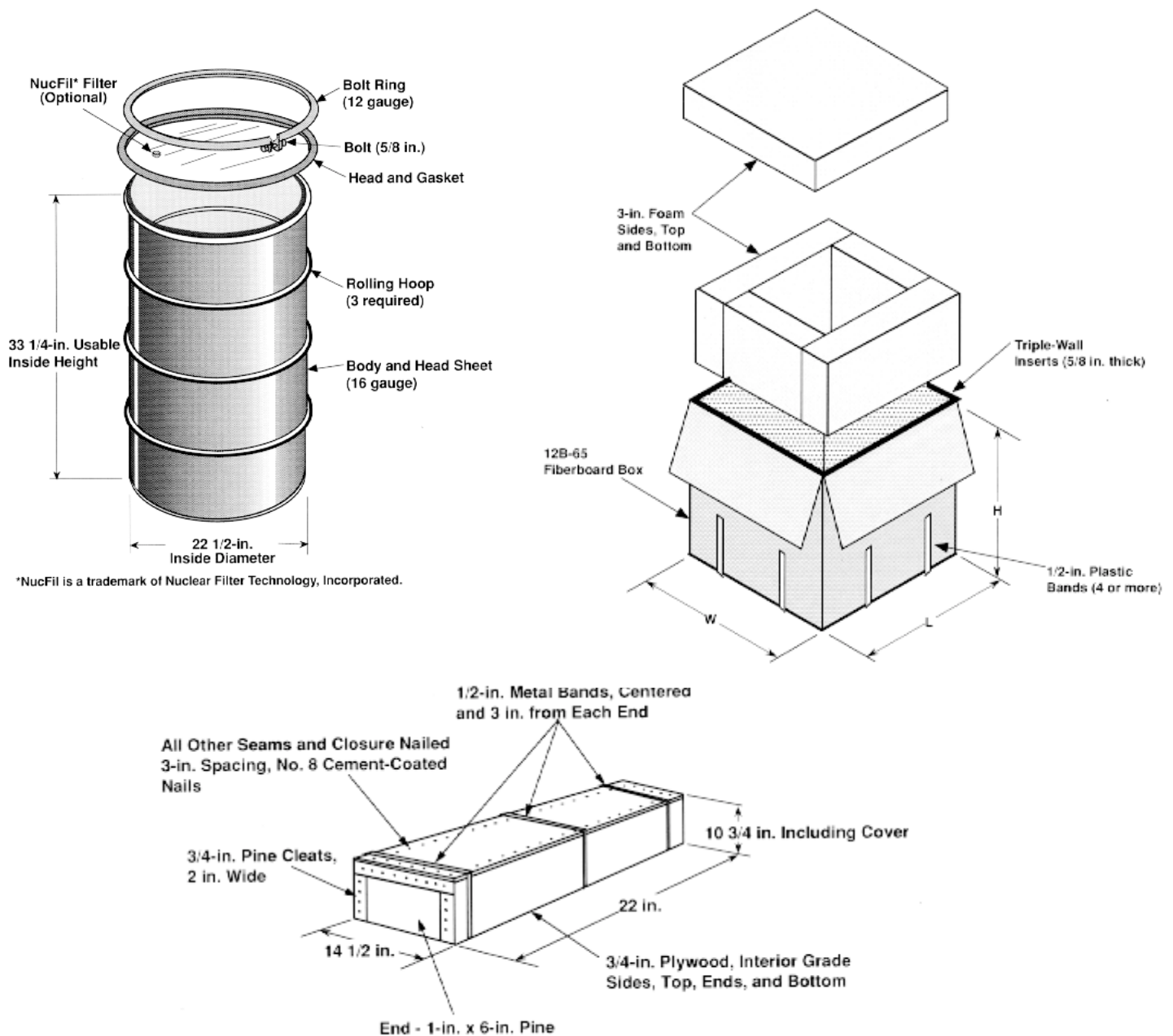
Regulatory Requirements: General requirements for Type A packagings are found in 49 CFR 178.350. Type A packagings must prevent loss or dispersal of their radioactive contents and must prevent a significant increase in radiation levels at the package's external surfaces under normal transport conditions, including rough handling. Those containing liquids or gases must have robust impact and penetration resistance in order to contain the material. These capabilities are verified through performance testing and/or engineering analysis simulating transport conditions. Title 49, CFR 178.350 directs individuals to design and test requirements in 173.403, 173.410, 173.412, 173.415, and 173.465. More stringent requirements for liquid and gas packagings appear in 49 CFR 173.466.

Modes of Transport: Highway, air, rail and water.

Uses: Examples of materials shipped in Type A packaging include radiopharmaceuticals and low-level radioactive waste.

¹This fact sheet does not apply to Type A packagings used to ship fissile materials.





Examples of Type A Packagings

Additional information on DOE's National Transportation Program may be obtained from:

National Transportation Program
U.S. Department of Energy
Albuquerque Operations Office
P.O. Box 5400, MS SC-5
Albuquerque, NM 87185-5400

Phone: 505-845-6134
Fax: 505-845-5508

Website:
<http://www.ntp.doe.gov/>

DOE Center for Environmental
Management Information
P.O. Box 23769
Washington, DC 20026-3769

1-800-7EM-DATA
1-800-736-3282

Website:
<http://www.em.doe.gov/>

Transportation Resource Exchange Center
ATR Institute
University of New Mexico
1001 University Blvd., SE
Albuquerque, NM 87106-4342

Phone: 1-877-287-TREX (8739)
Fax: 505-246-6001
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<http://www.trex-center.org/>